

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/048223 A1

(51) International Patent Classification⁷: **G09F 9/30**,
H05B 33/10, 33/14, H01L 29/786, 21/288, 21/3205

(21) International Application Number:
PCT/JP2004/016809

(22) International Filing Date:
5 November 2004 (05.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-386022 14 November 2003 (14.11.2003) JP

(71) Applicant (for all designated States except US): SEMI-
CONDUCTOR ENERGY LABORATORY CO., LTD.
[JP/JP]; 398, Hase, Atsugi-shi, Kanagawa 2430036 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KANNO, Yohei
[JP/JP]; c/o SEMICONDUCTOR ENERGY LABORA-
TORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa
2430036 (JP). FUJII, Gen [JP/JP]; c/o SEMICONDUCTOR
ENERGY LABORATORY CO., LTD., 398, Hase,
Atsugi-shi, Kanagawa 2430036 (JP).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

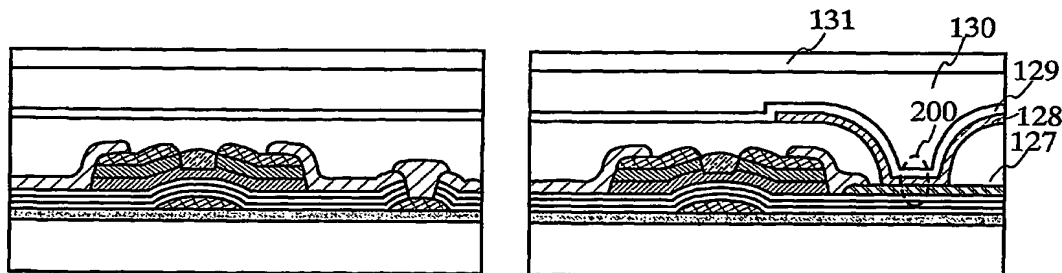
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: LIGHT-EMITTING DEVICE AND METHOD FOR MANUFACTURING THE SAME



(57) Abstract: Especially in case that a light-emitting element composed of layers containing organic compounds or inorganic compounds is driven by a thin film transistor (TFT), a structure having at least two transistors installed with a drive TFT is required to prevent irregularities of ON current of a switching TFT provided to a pixel region. Hence, the simplification of a semiconductor element structure and a process for manufacturing a semiconductor element becomes an urgent task as a large substrate is frequently used. According to the present invention, after that a source region and a drain region are formed, an insulating film serving as a channel protective film is formed to cover a portion for serving as a channel region, then, an island-like semiconductor film is formed. Accordingly, a semiconductor element can be manufactured by using only a metallic mask without forming a resist mask, and so the process can be simplified.

WO 2005/048223 A1